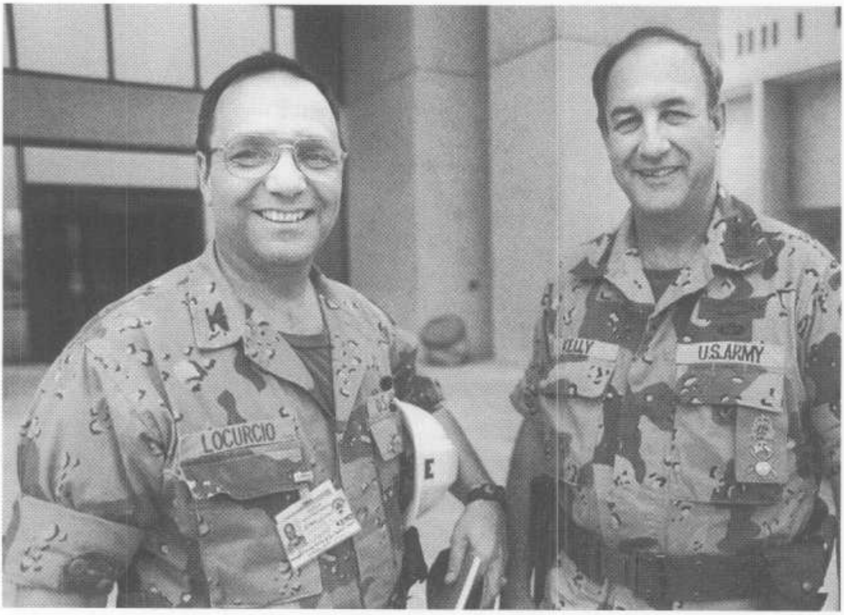
Chapter 5

Recovery Phase: The Defense Reconstruction Assistance Office and Kuwait Emergency Recovery Office

At Secretary Cheney's direction, the Defense Department's Kuwait effort moved from the emergency response phase to the recovery phase on 30 April. Authority for that effort transferred from the theater commander to the Secretary of the Army, the executive agent for the Secretary of Defense. Responsibility for the recovery shifted from Task Force Freedom to the Defense Reconstruction Assistance Office headed by the Secretary of Defense's representative, Maj. Gen. Patrick J. Kelly. Over the next eight months, the Kuwait Emergency Recovery Office and the Defense Reconstruction Assistance Office successfully completed the repair of Kuwait's civil infrastructure.

The Defense Reconstruction Assistance Office, a 48-person organization crafted by General Kelly, was almost equally split between soldiers and civilians. Kelly personally interviewed and selected nearly all civilians on his staff to ensure that they could function well as part of a team. To ensure continuity, he required a 6- to 12-month commitment from his staff rather than the 90-day commitment that the Corps required. Much like a standard military organization, the office included branches for personnel, security and intelligence, plans and operations, logistics, and resource management to oversee and coordinate the Kuwait Emergency Recovery Office's program and contracts. Kelly also absorbed the Kuwait Emergency Recovery Office's public affairs function and the remaining civil affairs effort.

Kelly had to satisfy Defense Department, State Department, and Kuwaiti requirements to account for all expenditures. His experience with the Israeli air base work convinced him to have auditors on his

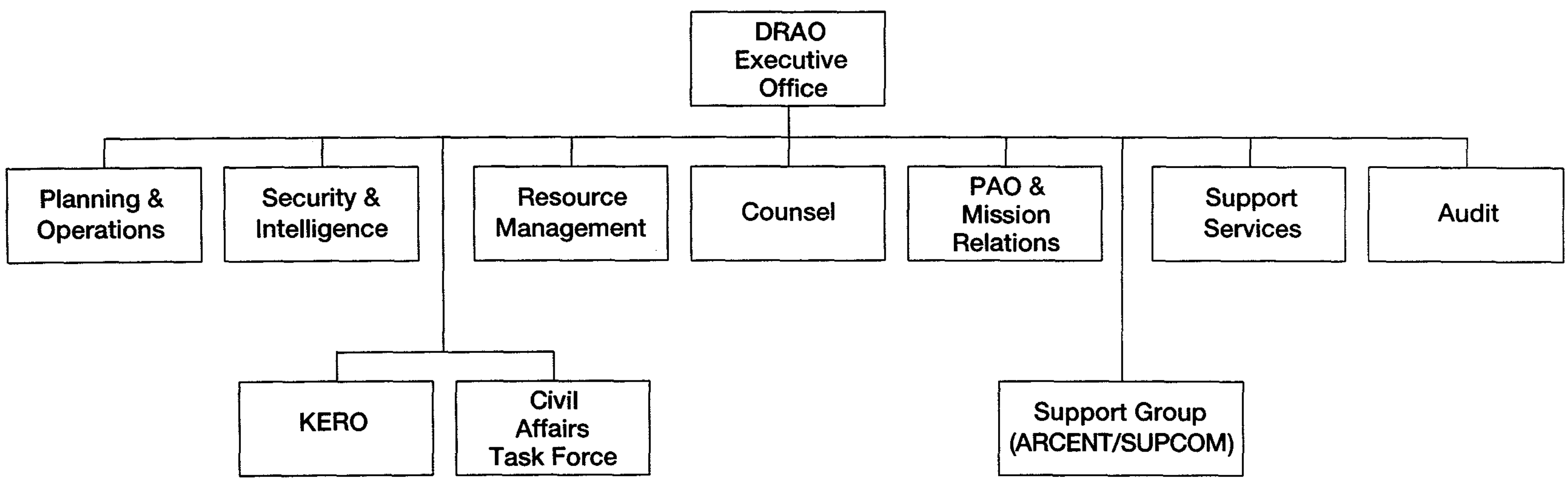


Colonel Locurcio with General Kelly, August 1991

team to ensure that the Army's execution of its contracts was above reproach. Assistant Secretary Livingstone concurred. She encouraged him to bring in representatives from the U.S. Army Audit Agency from the beginning to help develop the overall management plan and ultimately audit the activities. Livingstone did not want to find the Army performing work without sufficient Kuwaiti deposits on hand or without the appropriate controls in place.[1] Integrating the auditors from the beginning helped Kelly avoid confusion and criticism later on.

The Defense Reconstruction Assistance Office assumed responsibility for the Army civil affairs mission in Kuwait and retained a small civil affairs element with 19 soldiers from the 352d Civil Affairs Command to provide expertise in public services, public assistance, and commerce. *(Chart 6)* Initially, Kelly relied on Task Force Freedom for logistics and administrative support. Later, when the task force withdrew, Locurcio's office provided that support. As Kelly's staff grew, Locurcio's staff had to double the existing office space, office equipment, food service, apartments, and furniture to accommodate them. Kelly's staff moved into apartments in the Arab Fund building where most of the Corps personnel then lived.

Chart 6—Defense Reconstruction Assistance Office



By 7 May, the number of people assigned to the Defense Reconstruction Assistance Office reached 272, including Kelly's immediate staff, Kuwait Emergency Recovery Office personnel, civil affairs soldiers, an explosive ordnance disposal detachment, and military police personnel. The Corps of Engineers' element alone included 15 military, 114 civilians, and 68 Kuwaiti civilian volunteers.[2]

Kelly's stated goals were to centralize policies, budgeting, and procurement strategies at his headquarters, while leaving the actual execution to Locurcio's staff; to establish and maintain strong financial controls to ensure that the Army complied with U.S. law and policies and the procedures agreed to in the letter of exchange; and to provide for sound management of the 607A Foreign Assistance Act program. He also wanted to ensure that major decisions were coordinated with and approved by the appropriate Kuwaiti officials and help Kuwaiti ministries resume their management responsibilities as quickly as possible.

Secretary Stone had directed Kelly to evaluate the possibility of a long-term role for the Corps in Kuwait. Kelly's initial visit to Kuwait had convinced him that the damage was less extensive than Pentagon officials had anticipated. He found extensive damage from vandalism but, he concluded, not enough to qualify as "a disaster." Kelly reported to Secretary Stone that the repair work would take only 6 to 12 months and that he would work himself out of a job as quickly as possible. Kelly did not believe the U.S. Army should have a long-term role in repairing Kuwait's civil infrastructure. He recommended that the Corps complete the emergency repairs as quickly as possible and not involve itself in the long-term reconstruction phase, except for work supporting the Ministry of Defence. Secretary Stone concurred.[3]

Command, Control, and Communications

General Kelly requested succinct guidelines to define both his role and his relationship to the U.S. Ambassador. In response, Secretary Stone provided a "letter of instruction" outlining Kelly's specific responsibilities and relationships with the theater commander, Ambassador Gnehm, the Army Secretariat, the Army Staff, and the parent headquarters of the units and personnel attached to the Defense Reconstruction Assistance Office. The instructions gave Kelly an independent mission and command in the field under the oversight of Assistant Secretary Livingstone.[4] Kelly was to coordinate directly with Ambassador Gnehm and the CENTCOM commander.

The scope and uniqueness of the Kuwait recovery operation sparked intense media interest. Stone directed Livingstone to establish a procedure to keep senior Army and Defense Department officials well informed and ensure that Kelly's organization complied with Army guidance. Livingstone, a forceful personality, required that Kelly and his staff provide what she described as a "fairly minute" level of detail. Livingstone wanted to maintain a single line of authority between Kelly's office and the Secretary of the Army. Kelly reported to the Secretary of the Army through Livingstone.

Initially, communication with the Defense Reconstruction Assistance Office was difficult because few telephone lines worked in Kuwait, but with the restoration of more normal communication services, Kelly and Livingstone spoke daily. Kelly often sought guidance from Livingstone and faxed draft memorandums for her review. "We kept a fairly tight oversight control on the process," Livingstone explained. She conceded that she and other Army officials placed many regulations on Kelly that were technically not required to "insure that our process...would never be questioned, [and was] totally full of integrity."[5] Although Kelly appreciated being able to go directly to Livingstone or to General Mallory for quick decisions, he sometimes found the level of detail they required to be excessive.[6]

Kelly's relationship with Locurcio's office was more complex and perhaps more sensitive. The Corps headquarters in Washington commanded the Kuwait Emergency Recovery Office through its Transatlantic Division. Kelly, however, had operational control over that office and served as its link to Assistant Secretary Livingstone. The Transatlantic Division provided administrative and contracting support to the Kuwait office. It often communicated with that office directly, without going through Livingstone. Although Kelly clearly controlled the Defense Department's reconstruction effort, the division retained some autonomy. For example, the Kuwait Emergency Recovery Office and the Transatlantic Division handled all of Kelly's contracting because he had no warrant—the authority to sign contracts on behalf of the U.S. government. Also, the Transatlantic Division provided the funding mechanism and performed the official accounting and financial services for the Defense Reconstruction Assistance Office.[7]

Kelly explained to the Army Staff that he provided all programmatic guidance and direction to the recovery effort and insisted that the Corps office remain under his operational control to ensure that his guidance was converted into project execution. "In other words," he continued, "I have program responsibility while KERO [the Kuwait Emergency Recovery Office] has the responsibility for project execution." Kelly conceded that the command channel for the Kuwait Emergency Recovery Office flowed through the Transatlantic Division to Corps headquarters but insisted that he had a unique authority and position. From his perspective, he was the person ultimately responsible for the success of the reconstruction mission—to include Kuwait Emergency Recovery Office activities.[8]

Kelly and his staff assumed a larger role than some Corps officials had anticipated. Locurcio had thought that the Defense Reconstruction Assistance Office would function as a command and control and policy headquarters but leave the day-to-day planning and execution to his staff and the Transatlantic Division. Kelly, however, was a trained engineer officer with a broad range of experience in Corps districts, divisions, and headquarters. He was very familiar with the Corps' procedures and felt comfortable delving into the decisions and actions of the Kuwait Emergency Recovery Office. He soon involved himself in that office's programming and budgeting, even though the Transatlantic Division had previously performed these functions. He did this, he explained, because those activities involved coordination with the U.S. Embassy, the Kuwaiti government, and Pentagon officials. He also wanted to free Locurcio from the burden of coordinating with the embassy and the Kuwaitis so he could concentrate on execution.[9] This rationale had merit. Unlike most district engineers, Locurcio was deeply absorbed in the day-to-day management of a single project—the Kuwait recovery. Kelly successfully freed him from some of the coordinating, reporting, media interactions, and other requirements to focus more on project execution. Yet, at times, friction developed between the two organizations as Kelly and his staff executed their oversight role.

Financial Management/607A Process

The Defense Reconstruction Assistance Office assumed a major financial management role. It controlled its own overhead money and had approval authority over the Kuwait Emergency Recovery Office's expenses. The Kuwaiti funds deposited in the U.S. Treasury were allocated, in turn, to the Department of Defense, the Army Corps of Engineers, and the Transatlantic Division for Locurcio's organization to execute in accordance with the previously approved program. The Transatlantic Division provided the overall accounting support for the entire Section 607A Kuwait reconstruction assistance program. Although Kelly's staff monitored its own operating expenses as well as Kuwait Emergency Recovery Office costs, Locurcio's staff kept track of the actual costs of the projects.[10]

One of Kelly's major responsibilities was financial management of the program to repair the civil infrastructure under Section 607A of the Foreign Assistance Act. The financial management system was shaped, in large part, by the fact that the 607A program required that the United States provide Kuwaiti officials with a detailed account of how it had spent their money. The letter of exchange, the implementing agreement for the 607A program, required the Kuwaiti government to fund all Defense Department assistance in advance, to include operating costs and contractual obligations. Because of the size and scope of the program and the high level of accountability required, Pentagon officials soon found that existing procedures for accounting and reimbursement were inadequate.

As with the Israeli air base work, an effective information management system was critical. During that operation, the construction contracts required information systems that tracked the progress of the work and expenditures. The Corps initially relied on existing contractor systems until they proved inadequate. It lacked realistic and usable management data.[11]

Developing an effective financial management process for the work in Kuwait presented challenges. The Defense Department had never managed such a large 607A program. The Corps was the only Defense agency that had previous experience with a 607A program, and the project that the Corps had executed under this program was small (under $100,000). The large, complex Kuwaiti program required a financial management process that satisfied both U.S. and Kuwaiti requirements for fiscal accountability.[12] *(Chart 7)*

Before deploying, Kelly had met with representatives from the Office of the Assistant Secretary of the Army for Financial Management and the Army Audit Agency. The Assistant Secretary's staff agreed to develop proper fiscal procedures. One experienced staff member, Russell C. Plaisance, continued to provide Kelly with financial policy guidance and eventually became his chief of resource management.

The staff considered various Army systems for tracking 607A expenditures, including the Army Standard Finance System, but none encompassed project accounting, the most important aspect of the Defense Reconstruction Assistance Office's effort. At the recommendation of the Assistant Secretary, that office turned to the Corps for finance and accounting support. It adopted the Corps of Engineers Management Information System (COEMIS), a project-oriented accounting system that the Corps had developed for its civil and military construction programs, to track the obligation and expenditures of 607A funds. Although the system met U.S. reporting requirements, it did not provide all the information that the Kuwaitis needed. Kelly's and Locurcio's staffs had to develop a manual process to maintain additional information that the customer required.[13]

Initially, the Kuwait Emergency Recovery Office had manually maintained its financial records, but it became increasingly difficult to provide timely and accurate fund balances using this method. In August 1991, Kelly directed his auditors to help Locurcio's staff develop an automated funds control system. Within weeks, the two offices had developed a computer program to track obligations and expenditures, along with a users manual. The Kuwait Emergency Recovery Office Funds Control System provided an automated way to periodically reconcile miscellaneous commitment documents, obligations, and disbursements with the official accounting records—the Corps of Engineers Management Information System.[14]

Army Audit Agency officials favored the use of project cost accounting for Defense Reconstruction Assistance Office activities. Project cost accounting, the auditors insisted, was the appropriate way to allocate all direct and indirect costs to specific projects to provide full disclosure of the total costs. This mechanism would enable Kelly to provide project cost estimates to the Kuwaitis and budget effectively for the direct and indirect costs of each project. Direct costs included payments to contractors or in-house costs of providing services and materials. Indirect costs included the costs of administering and awarding contracts, movement of personnel in and out of Kuwait and their support, and program oversight.

Project cost accounting would also let Kelly's staff quickly identify problems and potential or actual cost overruns and better account to both governments for their expenditures. His staff would be able to produce accurate reports on the status of their programs. At Kelly's request, the Army auditors reviewed the Corps' cost accounting process and concluded that the Corps had sufficient internal controls to ensure that costs were charged to the proper projects.[15]

At the heart of the financial management system was the need to monitor the process for approving and funding projects under the 607A program. Plaisance and the Transatlantic Division staff established procedures for transferring funds from the Kuwaiti government to the U.S. Treasury in accordance with the letter of exchange.

The letter of exchange required the United States to operate on a quarterly budget and give the Kuwaitis a 90-day obligation plan at least 15 days in advance. The initial Kuwaiti deposits into the U.S. Treasury had to equal the Defense Department's estimated costs and financial obligations during the first 90 days. U.S. regulations required that the Corps have the money in hand before signing a contract. It could not obligate the U.S. government beyond the funds available. Moreover,

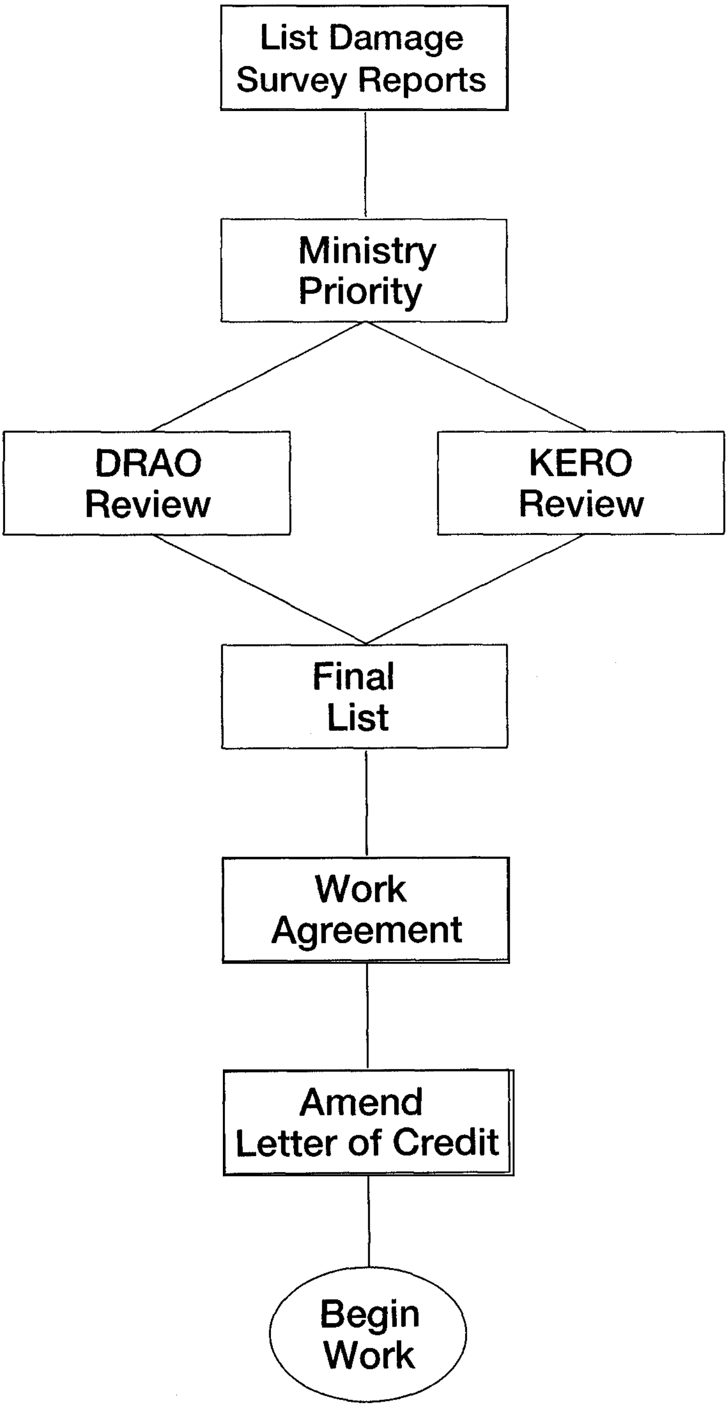


Chart 7–607A Work Flow

Army officials refused to go into a 90-day program unless it was fully funded and they had access to the money. Subsequent deposits to the U.S. Treasury had to equal the Defense Department's anticipated costs and financial obligations during each successive 90-day period. Defense officials would withdraw funds as necessary to fund the authorized civil restoration activities.[16]

Locurcio's staff developed a database with the status and budget of each project. It prepared a weekly report, and Locurcio met with Dr. Shaheen each Thursday. Dr. Shaheen presented the package to the council of ministers each Friday. The staff met with the committee (Ministers of Finance and Public Works, Dr. Shaheen, Bader Al-Qabandi, and Fatima Al-Sabah who represented the royal family). Under the 607A process Locurcio's staff developed and prioritized lists of projects for each ministry using damage survey reports. Staff members then discussed these priorities with the ministries and consolidated those final lists of projects into a work agreement—a formal agreement between the Kuwait and U.S. governments that the U.S. government would perform certain work at an estimated cost.[17]

After Ambassador Gnehm approved the draft work agreement, the Defense Reconstruction Assistance Office and Kuwaiti officials gave it final form. A policy committee headed by Dr. Shaheen with representatives from the Ministries of Public Works, Electricity and Water, and Finance approved the budget for the work agreement. The Kuwait Investment Office in London then made the money available through a letter of credit established at the Chemical Bank of New York. The Kuwaiti government transferred the funds electronically from the letter of credit to a newly established account in the U.S. Treasury called the Kuwaiti Civil Reconstruction Trust Fund. From there the money was transferred to the Department of Defense and through the Corps of Engineers to the Transatlantic Division. To avoid an unnecessary cash drain on the Kuwaitis, Kelly's staff divided the first 90-day program into three parts and planned to draw out the money in 30-day increments.

Using information that Locurcio's staff had provided and program guidance from Kelly, the Transatlantic Division then prepared the work directives. These directives provided the internal allocation of the Kuwaiti funds to support the Corps' costs and contract actions.

There were three separately funded work agreements under 607A. In April, Locurcio and Bader Al-Qabandi, representing the Kuwait Emergency Recovery Program, visited each minister to find out what work he needed. Locurcio used this information to develop a scope for the next quarter. Meanwhile, his staff consolidated the damage survey reports and coordinated with the Kuwaitis on priorities. Together with

Dr. Shaheen, they outlined a $30 million, 30-day budget for April that became the first work agreement. On 26 April, the Kuwaiti government transferred the initial $30 million via the letter of credit into the Treasury account. By that time, the Corps had committed almost all of the funds from the original $46.35 million foreign military sales case. The funding shortage was so severe that, for a brief time, the Corps had to stop giving its contractors work. When the Kuwaitis transmitted the first $30 million installment, the money was quickly spent.[18]

In May, Locurcio again met with representatives from each ministry to determine their requirements. He obtained from each a short list of priority projects that could be used as the basis for the next 607A funding request. He took the resulting list to Kelly and Shaheen and then to the Ambassador for approval. Using the list, they developed a budget for May and June, the second work agreement. On 13 May 1991, Dr. Shaheen approved the revised obligation plan for May and June, which required an additional $141.8 million. The Assistant Secretary of the Army for Financial Management, Douglas A. Brook, asked the Kuwaiti government to deposit that amount immediately so Kelly's and Locurcio's operations would not be disrupted. The letter of credit was subsequently increased by $141.8 million.[19]

To complicate matters, the Kuwait Emergency Recovery Program had only been created for 90 days and its functions officially ended on 26 May. The members returned to their ministries. During June and July, the United States would have to transition from working with the Kuwait Emergency Recovery Program to dealing directly with the individual Kuwaiti ministries. During the Kuwait Emergency Recovery Program's short tenure, both project authorization and funding authority had been consolidated with the program's chairman, Dr. Shaheen. Project authorization authority would remain with Kuwait's new Minister for Public Works, Abdulla Al-Qatami, but funding authority transferred to the Ministry of Finance.

In late June, Dr. Shaheen prepared to take up a new position as Minister of Municipalities. He informed the Crown Prince that he would be turning over his responsibilities as the director of the Kuwait Emergency Recovery Program to Al-Qatami. The Crown Prince, however, recognized that the current system was operating smoothly and responsively, and his ministers were pleased with it. The Crown Prince did not want to upset the program by changing leadership. He directed Dr. Shaheen to continue as the Kuwaiti government's point of contact for the Army's reconstruction effort. Kelly and Locurcio continued to meet with Dr. Shaheen each week, give him progress reports, and sometimes negotiate additional work agreements.[20]

Dr. Shaheen convinced the Minister of Finance not to change the existing funding procedures and processes. At Dr. Shaheen's request, in June Locurcio's staff drafted the basic work agreements for the next two quarters, July–September and October–December. During a meeting on 15 June, Dr. Shaheen, Kelly, and Locurcio finalized the cost estimate for the remainder of the 607A program for inclusion in Kuwait's 1992 budget. Dr. Shaheen indicated that he wanted all the funds for the 607A program obligated by 31 December 1991, including the cost of eventually closing the Defense Reconstruction Assistance Office. Kelly and Locurcio were to include enough funds in these obligation plans to cover any costs incurred after that date. Kuwaiti officials wanted to budget for the entire six-month period from July to December because they were in the midst of finalizing their budget for the 1992 fiscal year, which would begin on 1 July, and they wanted to integrate the budget for the recovery operations into the national budget.

Rather than develop another 90-day program, Kelly and Locurcio devised a six-month program ending 31 December 1991, with the understanding that the actual work would extend to April 1992. The Minister of Finance approved the $212 million budget that the Kuwait Emergency Recovery Office proposed. Kelly and Locurcio now knew the scope of work for the rest of the calendar year. On 26 July, the Kuwaiti government deposited $150.1 million for July–September plus $62.75 million for October–December program obligation and the Defense Reconstruction Assistance Office's close-out costs.[21]

Contracting Strategy

The Defense Reconstruction Assistance Office also assumed a major role in shaping the basic contracting strategy for the civil infrastructure work. Locurcio's staff, however, continued to develop the specific approaches for individual projects. In developing these strategies, the staff considered several factors: opportunities for employing small businesses, potential for U.S. firms, possibilities for increasing competition, and schedule and technical constraints. Kelly reviewed these strategies, modified them as necessary, and submitted them to Assistant Secretary Livingstone. Only after both Kelly and Livingstone had approved the strategies could the Corps begin the work.

In evaluating the contracting and acquisition plans, Livingstone and her staff considered Congress' desire to provide opportunities for U.S. businesses, particularly small businesses. They also kept in mind the goal of developing joint ventures between U.S. and Kuwaiti businesses "that would ensure a longer lasting business relationship, well past the era of reconstruction."[22]

One key element of the contracting strategy for civil infrastructure repair was using original contracts where possible, rather than awarding new ones, because of the urgency of the work. No one could accurately estimate the extent of the damage, so modifying the original contracts seemed to be the only quick way to meet the requirements. During the summer of 1991, the Corps assigned additional work to the original contractors through unpriced contract modifications. For example, it modified the original $2 million contract with Blount until it reached approximately $100 million. The initial foreign military sales contracts, in effect, became 607A contracts.

As the urgency diminished, the Transatlantic Division and the Kuwait Emergency Recovery Office awarded several contracts on a limited competitive basis. It screened firms that had responded to the February *Commerce Business Daily* announcements to create a list of prequalified firms. Then Locurcio's staff asked those firms to submit proposals. It had more time to solicit and evaluate those proposals. For example, the Corps awarded contracts on a competitive basis to prequalified firms for repairs to the 707 and 747 hangars and the flight crew training center at Kuwait International Airport, repair of the Failaka Island Ferry Terminal, and channel dredging.[23]

The Corps, however, handled most new work by simply modifying existing contracts. By 20 November 1991, contract modifications brought the total amount obligated on those contracts to $211 million. Although the use of unpriced contract modifications allowed work to begin immediately, it also increased the need for effective internal controls. The Federal Acquisition Regulations required more administrative controls over undefinitized contracts than over competitive contracts. During the ensuing months, auditors spent many hours ensuring that proper controls were in place.

Another key element of the Defense Department's contracting strategy was to limit the duration of the contracts. The Pentagon's and General Kelly's goal had always been to assist the Kuwaiti government for a few months and then leave. Pentagon officials worried that, in time, the Kuwaitis would come to resent the presence of the U.S. military.

As the government ministries resumed normal operations, Army leaders recognized that the Kuwaiti government was ready to minimize foreign involvement in its internal affairs and manage its own contracts. Livingstone made it clear that the Defense Department would not be involved in long-term contracts to repair Kuwait's civil infrastructure. As one member of her staff explained, "We did not want to have DRAO

[Defense Reconstruction Assistance Office] or any U.S. Army organization perceived to be staying beyond that absolute minimum time required to reestablish civilian control in Kuwait."[24]

Livingstone and Kelly refused to let the Corps accept any civil work that extended beyond December 1991. By that time, Kelly predicted, most ministries would be fully operational with enough staff to handle the remaining recovery work, except for repairs at the National Assembly building, Kuwait International Airport, and Ministry of Planning headquarters.[25]

The Army continued giving preference to U.S. firms and worked to increase the involvement of small and small disadvantaged American businesses. The issue of using small and small disadvantaged businesses had nothing to do with the actual needs of the recovery program; it was rooted in politics. Media reports had fed expectations of lucrative contracts for American firms. As U.S. small businesses struggled to get a piece of the anticipated multibillion dollar rebuilding of Kuwait, they became increasingly frustrated. Small businesses could not travel to Kuwait initially because the airport was closed to civil air traffic. They could not get through to Kuwaiti representatives by telephone or often did not know whom to contact. Moreover, they often lacked the experience and resources to mobilize and operate efficiently overseas. Kuwaiti officials, in turn, were overwhelmed with the volume of requests for information about contracts. The senior vice president of one small Atlanta firm, Joseph Middleton, articulated the frustration of many small businesses when he complained, "We're out in left field, we're on the sidelines and the game is moving on."[26]

So great were the obstacles that unless the U.S. government paved the way, small businesses would not be able to participate in the Kuwait work. Small businesses turned to Congress and the Army for assistance. Congress pressured the Army and the Department of Commerce to do more to help U.S. businesses, particularly small and small disadvantaged businesses. In response, Livingstone directed Kelly to devise innovative ways to do this such as establishing small business subcontracting goals or setting aside specific work for small firms. Some of these mechanisms, however, were of questionable legality. Also, most small firms lacked the capability to mobilize quickly and handle the work.[27]

The House Appropriations Committee directed the Secretary of the Army to make every effort to use—and encourage the Kuwaiti government to use—small and small disadvantaged businesses in any contracts or subcontracts awarded for the reconstruction of Kuwait's infrastructure. Committee members noted that, at a minimum, the Army should provide such businesses with fair and equal access to information about any contracts or subcontracts that might be awarded and include them on the list of prequalified companies that the Corps provided to the Kuwaiti government.[28]

In early March, Principal Deputy Assistant Secretary of the Army for Installations, Housing, and Environment Michael W. Owen testified before the House Subcommittee on Exports, Tax Policy, and Special Problems and the Senate Committee on Small Business about the Army's efforts to promote small business interests. Owen explained that the emergency nature of the initial assistance funded by foreign military sales, the limited solicitation period because of the rapid collapse of Iraqi forces, and the difficulties of transporting supplies, equipment, and personnel to Southwest Asia had made incorporating small businesses more difficult. But, he assured the committees, the 607A program would provide more opportunities for such businesses.[29]

Many in Congress were particularly alarmed by the small number of minority-owned businesses involved in the reconstruction of Kuwait, especially when minorities accounted for a significant part of the U.S. forces in the Persian Gulf War. Representative Mervyn M. Dymally (California), for example, asked the Secretary of the Army for specific information about involving minority-owned businesses. Representative Charles B. Rangel (New York) had heard that American firms had $500 million in contracts for the reconstruction of Kuwait but none had gone to minority-owned firms. He asked Secretary Cheney to ensure that minority participation in the Persian Gulf was "not limited to their performance on the battlefield." Kelly, too, linked minority participation in the war to involvement in postwar reconstruction. Minorities made up 17 percent of the U.S. armed forces, he insisted, and the same proportion of U.S. minority-owned businesses should have the opportunity to enjoy the fruits of victory.[30]

Section 606 of the Persian Gulf Conflict Supplemental Authorization and Personnel Benefits Act of 1991 (PL 102–25), enacted on 6 April 1991, stated that it was the "sense of Congress" that the Corps award contracts first to U.S. firms who used small and minority-owned businesses and were committed to employing U.S. workers, then to other U.S. firms, and finally to other coalition force members. It further stated that U.S. firms receiving contracts should employ U.S. citizens, give preference to veterans, and award subcontracts to small and minority-owned firms as much as possible.

The legislation required the Army to provide Congress with a detailed report on the involvement of small and small disadvantaged businesses. The report would indicate the number of prime contracts and subcontracts awarded to firms by country and by the total dollar value, the number and percentage of contracts awarded to small businesses and to small disadvantaged businesses compared to the total number of contracts awarded to U.S. firms, and the number of subcontracts awarded to small businesses and to small disadvantaged businesses under each prime contract awarded to a U.S. firm.[31]

Meanwhile, Army leaders pressured General Hatch to encourage awards to small businesses as prime contractors. Because of the high-level interest in small business involvement, Deputy Assistant Secretary of the Army for Procurement George Dausman wrote, "it is incumbent on us to record the effectiveness of our efforts."[32] Meanwhile, Army officials reminded Congress that the Corps had awarded only nine contracts totaling $28.2 million. Although no small or small disadvantaged U.S. businesses had received these contracts, they insisted that the Army was "aggressively encouraging" their participation.[33]

In line with this policy, the Corps modified the original letter contracts to include clauses encouraging the award of subcontracts to small and small disadvantaged business. When negotiating for supplemental agreements, change orders to existing contracts, or future contracts, the Corps would incorporate two clauses.[34] One clause required contractors to agree to encourage small and small disadvantaged business participation. The other required each contractor to submit a plan for subcontracting with small and small disadvantaged businesses.

Since the original contracts did not require the use of small business subcontracts, the Corps could only encourage its contractors to do so. Large contractors, however, had difficulty subcontracting to small firms because few operated in the Middle East. Moreover, some large firms lacked familiarity with the small business requirements.[35]

Under Secretary of the Army John Shannon made the involvement of small and small disadvantaged businesses a high priority. After a visit to the Transatlantic Division on 7 May, however, Shannon's special assistant William Takakoshi concluded that there was probably little opportunity to increase small and small disadvantaged business opportunities with the original eight contractors.[36]

Livingstone, too, recognized that the emergency phase provided few opportunities for small and small disadvantaged businesses, but she wanted to maximize those opportunities. She asked the director of the Office for Small and Disadvantaged Business Utilization for advice on how to increase small and small disadvantaged business participation. Meanwhile, she directed Kelly to expand competition in the long-term strategy for recovery projects. "We must take this opportunity to start demonstrating our commitment to utilize small and small disadvantaged businesses in the restoration of Kuwait," she insisted.[37]

First, the Army had to determine the legality of expanding opportunities for small businesses. The Transatlantic Division's lawyers could find no statutory or regulatory requirement to implement any small and small disadvantaged business programs in contracts awarded overseas. Section 19(b) of the Federal Acquisition Regulations, "Small and Small Disadvantaged Business Concerns," specifically stated that small business and small disadvantaged business requirements applied only inside the United States, its territories and possessions, Puerto Rico, the Trust Territory of the Pacific Islands, and the District of Columbia. Therefore, the regulations did not apply to recovery contracts for Kuwait.

In June, Kelly and Locurcio sent Livingstone their proposals for involving small businesses. One option for future contracts was to have the prospective contractors provide a small business plan that could be used as a selection criterion. Kelly suggested that Livingstone and her staff seek an exception to the Federal Acquisition Regulations allowing them to evaluate the small and small disadvantaged business plans of prospective contractors. Second, he recommended that the Corps develop a list of qualified small businesses that the U.S. Embassy could use to promote small business involvement in Kuwait. Finally, he recommended that the Army set aside certain work for small and small disadvantaged businesses.[38]

At the time, the Army was limited to encouraging prime contractors already under contract to hire small businesses as subcontractors. For example, the Kuwaiti firm restoring the National Assembly building, Kharafi, hired an American small business firm, American Catastrophics Environmental Services, for smoke damage restoration. Livingstone found the results of such negotiations "less than satisfactory."[39]

Army leaders now determined that they had the authority to make a contractor's plan for using small businesses a criterion in the formal evaluation process. The Army Judge Advocate concluded that while this action was "unusual," nothing in the Federal Acquisition Regulations or relevant statutes prohibited it. He concluded that including small and small disadvantaged business subcontracting plans as an evaluation factor did not require a formal deviation from the Federal Acquisition Regulations. However, he cautioned, an evaluation plan that puts an "unreasonable amount of weight" on small business subcontracting "could be challenged in a protest as arbitrary."[40] In other words, the proposal was permissible if the Army did not give the factor too much weight.

The Defense Reconstruction Assistance Office instituted a new procurement process by which the Corps would evaluate contract proposals on the basis of the contractor's small disadvantaged business plan as well as price and past performance. Next to price, the contractor's plan for using small and small disadvantaged businesses would be the second or third most important factor. This process paid immediate dividends. For example, Morrison Shand Construction, Ltd. planned to subcontract nearly $2 million (25 percent) of its $7.8 million contract for the restoration of aircraft hangars and other facilities at Kuwait International Airport to small disadvantaged businesses.[41]

In addition to requiring small business plans from prospective contractors, Army officials discussed setting aside specific work for small businesses. Army lawyers found this issue to be complex and controversial. Thomas A. Duckenfield III with the Army General Counsel observed that no statute prohibited the Army from implementing small business set-asides for Kuwait reconstruction projects. However, Section 19(b) of the Federal Acquisition Regulations specifically stated that the rules applied only in the United States and certain U.S. territories and possessions. Therefore, Duckenfield recommended that the Army obtain a deviation from that provision before implementing small business set-asides. The deviation would protect the Army if a contractor protested that the Army violated its own regulations. Duckenfield recommended that the Army use subcontracting plans to promote small disadvantaged business participation instead of establishing set-asides. Otherwise, he warned, large corporations excluded from contracts would probably challenge the legality of the Army's set-aside plan.[42] James King, also with the Army General Counsel, warned that establishing such a program "raises uncomfortable constitutional questions that we would prefer not to address at this time."[43]

In mid-July, the Transatlantic Division reported that it planned to encourage its original contractors to use small businesses by requiring them to submit a small business subcontract plan. The division commander, General Witherspoon, established a goal that, effective 20 July 1991, 5 percent of the contract value of all future foreign military sales [as opposed to contracts under Section 607A] contract awards and modifications go to small and small disadvantaged businesses. The division staff would include the small business source selection criteria and subcontract clauses discussed above in the foreign military sales solicitations and review their foreign military sales program to set aside work for small businesses. The division had already set aside an indefinite delivery architect–engineer contract for design work (estimated at $245,000), explosive ordnance removal work at Ali Al-Salem Air Base and Ahmed Al-Jaber Air Base (estimated at $1 million to $2 million for each base), and work at a fire station at Kuwait International Airport (estimated at $600,000).[44]

Shortly after Witherspoon announced his plan, on 26 July, Livingstone directed that 5 percent of the value of *all* contracts and modifications for Kuwait reconstruction be set aside for small businesses. Corps officials pleaded with Livingstone to drop her 5 percent goal and let them establish their own internal goal. "We will make every effort to attain our goal," one Corps official explained, "but the imposition of a goal by the ASA [Assistant Secretary of the Army] could paint us into a corner from which it may be difficult to move."[45]

In August, Kelly asked Corps headquarters for a list of small and small disadvantaged businesses that could perform specific work in Kuwait. He apparently planned to provide this list to Locurcio's staff as a resource for future contract actions. The list would also go to current and future prime contractors to use as a source list of subcontractors and to Kuwaiti officials to give to their prime and small contractors for possible subcontracts and joint ventures. The Transatlantic Division sent a database containing the required information to both Kelly's and Locurcio's staffs. At Kelly's request, the Corps used the database to identify small disadvantaged businesses and compiled information evaluating the performance of firms that had Army contracts.

Corps leaders and members of the Army Staff, however, expressed concern about Kelly's request for a list of small disadvantaged businesses who had been "proven performers" for specific types of work. Livingstone warned Kelly to handle the information with care and not use it to exclude any firm from consideration for a contract. Providing a list of small disadvantaged businesses for specific contract actions could be construed as creating a set-aside for such businesses, and the Army General Counsel had already cautioned against such set-asides. Army leaders had testified before Congress that firms responding to the *Commerce Business Daily* announcements would be given equal consideration. As one senior Corps official noted, the Army could not risk the appearance that it was using information about past performance to restrict competition.[46]

Small Kuwaiti firms clamored for work much like their American counterparts. Kelly suggested to Dr. Shaheen that they set aside work for small American and Kuwaiti firms. At Kelly's urging, Dr. Shaheen drafted a letter directing the Defense Reconstruction Assistance Office to establish a program that would result in the award of contracts to U.S. small disadvantaged businesses that had entered into joint ventures with Kuwaiti firms. "Competition," Dr. Shaheen explained, "will be limited to U.S. small disadvantaged businesses that you determine can satisfactorily perform in Kuwait, preferably firms already present in Kuwait." Kuwaiti participation, he added, should total 50 percent of the value of these contracts.[47]

General Kelly and Dr. Shaheen developed a program to set aside work for American small disadvantaged businesses that had formed partnerships (joint ventures) with small Kuwaiti firms. The Defense Reconstruction Assistance Office and Kuwait Emergency Recovery Office provided the U.S. firms with lists of small Kuwaiti firms so they could find partners and bid on the contracts competitively.[48]

As part of the small and small disadvantaged business outreach program, on 24 October 1991, the Corps awarded a $731,704 contract to MME Contractors International of McLean, Virginia, and Abdullah Al Naser General Trading of Kuwait City to repair and restore two fire stations at Kuwait International Airport. Two days later, the Corps awarded a $565,000 contract to American Techno Trade, Inc., of New York City and Fadden General Trading of Kuwait City to repair the main Coast Guard Station. It awarded a $780,000 contract on 20 November 1991 to yet another small disadvantaged firm, BEC Construction/joint venture, to repair and restore seven fire stations in Kuwait City. By September, out of the $180,517,620 total for contracts, small businesses accounted for $6,879,351 (3.81 percent) and small disadvantaged businesses accounted for $1,898,100 (1.05 percent).[49]

In October 1991, Livingstone reported more optimistically that the small business program in Kuwait had become "an upbeat program which is producing positive results." The 5 percent goal and the use of small business utilization plans as a major evaluation factor, she claimed, were paying "immediate dividends." Of the $208 million in contracts awarded under the Foreign Assistance Act and foreign military sales case, $9.3 million (4.4 percent) had gone to small businesses, with $2.0 million to small disadvantaged businesses. Not reflected in any figures, but nonetheless important, she added, was the considerable time the Army had spent helping small businesses. It had provided the Commerce Department, prime contractors, and Kuwaiti government with names and addresses of small and small disadvantaged businesses that were interested in working in Kuwait; participated in over 75 small business seminars to provide information on business opportunities and methods in Kuwait; and met with many firms to discuss business opportunities in Kuwait.[50]

By mid-April 1992, the Corps awarded $24 million (6.85 percent of the value of all its contracts) to small and small disadvantaged U.S. businesses, primarily through subcontracts awarded by its prime contractors. Awards to small disadvantaged businesses totaled over $11 million (3.13 percent of the value of all contracts).[51]

Kuwaiti officials never fully understood the intense political pressure to use small businesses. The Kuwaitis generally opposed giving preference to small American businesses, which they believed would increase their costs. Critics charged that at times Congress seemed more anxious to satisfy American business interests than the Kuwaiti government—the Army's customer. Locurcio maintained that the small business policy was very shortsighted. The main goal of the United States should have been to demonstrate to Kuwait that it was a responsive partner, he insisted, not to push its own objectives. Locurcio believed that if the United States was responsive to the needs and concerns of the Kuwaitis, the result would be long-term American business ties. The appropriate role for small businesses in an overseas environment, he argued, was not as prime contractors but as subcontractors under large firms that could intercede to prevent problems with personnel, equipment, or other aspects of the operation.[52] To place such tremendous emphasis on small businesses, most of whom could not get into Kuwait, contact Kuwaiti officials, or put together the resources to mobilize in Kuwait, made little sense, except from a political standpoint. If the damage in Kuwait had been more severe, government officials would probably have had less time to focus on the small business issue.

Contracting for Civil Infrastructure Repair

The reconstruction phase included additional repairs to the electrical and water supply systems, government and public buildings, and transportation networks. As the various ministries resumed operations, the requirements for additional work increased. To handle the mounting construction requirements, the Corps expanded the size of its Kuwait office. By mid-August it included 178 Corps employees and Kuwaiti volunteers. Civil infrastructure work under the 607A program peaked in July and August with the repair of the schools, one of the great successes of the reconstruction phase.

The schools in Kuwait, which had been closed nearly a year, were the main focus of civil infrastructure repair during the summer of 1991. During the seven-month occupation, Iraqi soldiers had used the schools as barracks, maintenance facilities, hospitals, and ammunition storage areas. Most of the damage was the result of vandalism, malicious fires, and looting. The Iraqis had broken thousands of windows, kicked in doors, and stolen air conditioners and fans. Graffiti covered classroom walls. At one school, every room had been firebombed. At another, the soldiers had used the gymnasium as a motor pool and burned student records as fuel for cooking.

Kuwait's Ministry of Education asked the Corps to contract for emergency repairs to more than 300 of its 500 schools. Locurcio negotiated with school officials and agreed to complete repairs on 152 schools by opening day, 24 August. Because of the time constraints, Kelly and Locurcio decided to use 607A authority to issue work orders under the existing contracts and, where necessary, modify these contracts to accomplish the school repairs. Livingstone concurred. Corps contractors Brown and Root and Kharafi conducted the surveys and performed most of the repairs with the help of local subcontractors. Blount also performed work.[53]

The scope of the damage and the tight schedule made the repair work particularly challenging. The contractors never had enough workers. At one point, one of the contractors had to hire an additional 1,200 workers. To complicate matters, the Ministry of Education repeatedly changed the list of schools to be renovated until two weeks before the scheduled opening. Also, local residents sometimes deposited ammunition from other sites at the schools at night because they knew the Corps' contractors would remove it. The Ministry of Electricity and Water never provided the electrical panels and personnel to hook up the wires as promised. A week before the schools were to open, there were still no panels or workers, so the Kuwait Emergency Recovery Office directed each of its contractors to provide them. Finally, since the liberation, some soldiers from Kuwait's Army and other coalition forces had been using the schools as barracks. Kelly's staff had to move Egyptian forces out of several schools to begin repairs. The issue became so thorny that the Egyptian Ambassador had to intervene.[54]

Working feverishly, the contractors repaired 145 schools in just over two months and in time for opening day. Nearly 1,800 contract workers spent roughly 500,000 hours removing trash, debris, ammunition, and vehicles; repairing or replacing thousands of windows, doors, air conditioners, fans, plumbing and electrical fixtures, and lights; repairing and replacing water systems; painting walls; repairing brick fences; and removing bunkers and thousands of rounds of ammunition. Repair costs reached $35 million.

On the first day of school, 465 schools opened with 254,000 students. The occasion was marked by a nationally televised ribbon-cutting ceremony. The reopening was an important indicator of a return to normalcy in Kuwait. The Minister of Education, Dr. Suliman Al-Bader, expressed his gratitude to the United States and the Corps. "Without their help," he observed, "it would not have been possible." Ministry of Education officials were so impressed with the results that they assigned 14 more schools. Kelly later observed that his staff and the Kuwait Emergency Recovery Office had performed "an absolutely impossible task." The Kuwait Emergency Recovery Office, he said, did a "magnificent" job managing the

Al-Ferdous Girls Middle School; below, *Al-Asmah Girls High School*.

Damage to the executive office waiting area in the Parliament building, August 1991; below, *the same area a year later, after renovations were complete.*

Kuwait International Airport Terminal 2 with the damaged control tower in the background, 5 August 1991; below, *a year later the terminal was bustling with travelers from around the world.*

effort. Secretary Stone proudly reported to Secretary Cheney that the government of Kuwait was pleased with the work.[55]

As the school repairs neared completion, Kelly and Locurcio shifted their emphasis to the remaining work at the National Assembly building, the Ministry of Planning headquarters, and Kuwait International Airport. The damage assessment and emergency repairs at the 400,000-square-foot National Assembly building were already underway at an anticipated cost of roughly $24 million. The Emir had decreed that elections for the National Assembly would be held in October 1992, and the building had to be fully restored by April 1992.

Originally, the Corps planned to use one of its existing contractors to clean and repair the building. However, Kuwait's Council of Ministers, who viewed the building as a symbol of Kuwaiti sovereignty, insisted that a Kuwaiti firm do the work. Specifically, Dr. Shaheen asked Kelly to use Kharafi to reconstruct the building, and Livingstone acquiesced. In mid-July, the Corps awarded a $19.5 million contract to Kharafi for structural repairs. Also, at the direction of the Kuwaiti government, the Corps awarded a $2.5 million interior design contract to Hellmuth, Obata, and Kassabaum, a U.S. architect–engineer firm.[56]

Repair of the Ministry of Planning headquarters proved challenging as well. The prime contractor, Kharafi, resisted hiring a subcontractor that specialized in smoke damage restoration. Only after some cajoling from Locurcio did Kharafi do so. By late May 1991, 90 percent of the first phase of repairs (to the basement and ground floors) was complete. The second phase involved minor repairs to the second and third floors on the north wing. The third phase was to finish removing fire damaged portions of the second and third floors of the south wing.[57]

The Kuwait Emergency Recovery Office and its contractors also continued repairs at Kuwait International Airport. They completed work on two runways and the apron area in July. By late August, the Corps had repaired nearly all of the terminal's passenger gates. The Kuwaiti government also requested help restoring the airport's catering and cargo facilities. It hoped to occupy the catering facility on 31 July and the cargo terminal on 31 October. On 12 September 1991, at the request of the Kuwaitis, the Transatlantic Division awarded a $7.8 million contract to Morrison Shand to clear, repair, and rehabilitate the two hangars and a flight crew training center at the airport.[58]

Kelly reported in early November that the airport remained a "primary project." The repairs to the two hangars and the training center were only 5 percent complete. Workers had discovered asbestos in one hangar, requiring the contractor to prepare an abatement and removal plan. Other parts of the project were further along. Repair of the 60-

meter control tower was 99 percent completed, and the catering building was 50 percent complete. Terminal two was operational. The airport reopened in May 1991 and resumed 24-hour operations on 3 August 1991, a year after the Iraqi invasion. By December, contractors had finished repairing the reception area, all gates at the international terminal, bomb craters on runways, and the instrument landing system.[59]

During the summer, the Corps and its contractors continued repairing the other parts of Kuwait's water supply and transportation infrastructures. The Corps focused its effort on pumping stations and leaks in the pressurized feeder lines. The three plants produced over 100 million gallons of water a day, more than enough to meet the current demand. The Corps contracted with Daniel, Mann, Johnson, and Mendenhall of Los Angeles to develop plans for repairing the bridges. Two of the company's engineers and an engineer from the Corps' Waterways Experiment Station in Vicksburg, Mississippi, surveyed damage to the bridges, and the contractor completed the designs for the repairs by early November.[60]

The Corps and its contractors ultimately restored more than 1,000 public buildings. In November 1991, the capacity to produce 3,760 megawatts of electricity far exceeded the demand of 1,670 megawatts. Electrical power had been restored to 99 percent of Kuwait City at a total cost of $53.6 million. By December, three desalinization plants were in operation and water was continuously available in every sector of Kuwait City. The reservoirs were full. Operations had resumed at two plants in the sanitary sewer system, and an assessment of the entire sanitary system had been completed. All major pump and lift stations were operational, and the Ministry of Electricity and Water handled most repairs. The ministry had assumed total responsibility for water distribution, production, and storage capabilities on 31 July. Some 200 kilometers of roads had been repaired and 3,700 bunkers, barriers, and vehicles had been removed. Bridge repair work, however, continued.[61]

By year's end, repairs to Kuwait's civil infrastructure were nearly complete, except for the National Assembly building. Virtually all of Kuwait's civil infrastructure had been rebuilt in only eight months. As that work declined, the workload supporting Kuwait's Ministry of Defence increased. Damage to Kuwait's military infrastructure was much more extensive, and the repairs would take longer.

Fighting Kuwait's Oil Fires

The U.S. Army supported what was by all accounts the largest oil firefighting campaign in history. Overall responsibility for firefighting operations rested with the Kuwaiti government and its Ministry of Oil. Kuwaiti leaders decided early on that the Kuwait Oil Company would manage and direct all firefighting operations.

Before the Iraqi invasion, Kuwait had roughly 1,300 producing wells in its primary oil fields. Approximately 75 of these were high-pressure wells in the important Burgan field that produced 20,000 to 50,000 barrels of oil a day. Kuwait had a production quota of 1.5 million barrels per day, set by the Organization of Petroleum Exporting Countries (OPEC), though it could produce much more.

As Iraqi soldiers withdrew from Kuwait, they blew up over 600 oil wells, resulting in the loss of an estimated 5 to 6 million barrels per day. Roughly 520, or 85 percent, of the wells burned at temperatures as high as 2,000 degrees Fahrenheit. The rest gushed thousands of barrels of crude oil into large dark, lifeless "lakes," up to six feet deep. Onlookers hundreds of feet away could feel the intense heat and hear the roar of the burning wells, similar to the sound of a jet engine. Thick smoke shrouded the fields. To further complicate matters, unexploded ordnance and Iraqi mines littered the oil fields. The country's three refineries—Shuaiba, Mina Abdulla, and Mina al Ahmadi—were also damaged.[1]

The Kuwait Oil Company directed the early planning for the firefight in Washington. The Kuwaitis requested U.S. Army civil affairs support in the planning effort. Kuwait Task Force members helped the Kuwaitis gather information about the oil well fires, plan logistics support, and develop an emergency plan of action. The Kuwait Oil Company hired

[1] Lt. Col. Christopher Werle, Information Paper, Subj: Status of Kuwait Oil Field Cleanup, 16 Jun 1991, Kuwait Reconstruction: Oil Fires, Office of History Files; Matthew L. Wald, "Surge of Water Due to Well Fires to Cut Future Kuwaiti Oil Output," *New York Times*, 9 Apr 1991, p. A13; Lt. John A. Miller, "After the Storm, the Effects Linger On," *The Military Engineer*, v. 84, no. 547, Jan–Feb, 1992; "Slow Progress Frustrates All Involved As Oil Wells Burn at $1,000 a Second," *New York Times*, 22 Apr 1991, p. A8.

The damage to the oil wells created large pools of oil in the desert.

O'Brien, Goins and Simpson as the executive agent to coordinate the firefighting activities. It signed contracts with Red Adair Company, Boots and Coots, and Wild Well Control, Inc., all skilled Texas-based world-renowned firms, and with Safety Boss of Calgary, a well-qualified Canadian company. The Kuwait Oil Company also eventually hired Bechtel to reconstruct the oil infrastructure and to provide food, housing, and other support to the firefighters, but Bechtel had no direct role in putting out the fires.[2]

It took the Kuwaitis four months to award the first firefighting contract, and they hired firefighters before hiring a contractor to support them. A severe shortage of heavy equipment such as bulldozers, backhoes, and trucks hampered the firefighting effort. Because of theft or Iraqi destruction, virtually everything needed to support operations had to be imported. The challenges of feeding, housing, and equipping a work force that would eventually grow into the thousands were staggering.[3]

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[2]Memo (draft), Under Secretary of the Army John W. Shannon for Deputy Secretary of Defense, Kuwait Reconstruction: Oil Fires, ASA(ILE) Files; memo, Maj. Marc K. Collins for Asst. Director of Military Programs, 17 Apr 1991, Kuwait Reconstruction: Oil Fires, ASA(ILE) Files.

[3]Werle, Information Paper, 16 Jun 1991.

Firefighters arrived to survey the damage, assess their personnel requirements, and determine where they could stage their equipment. The first experts from Red Adair, Boots and Coots, and other companies arrived in Kuwait City on 4 March and toured the burning oil fields by helicopter. They estimated that extinguishing the fires and repairing the wells could take two years.

Initially, the contractors could not bring in workers because they had no way to feed or house them. The companies also had trouble getting the necessary equipment. The Kuwaitis were initially reluctant to invest the tens of millions of dollars needed for equipment, even though the fires consumed roughly $100 million worth of oil each day.[4]

Members of the Kuwait Task Force provided the immediate logistics and communications support to the firefighting teams. They also provided ground and air transportation to assess damage in the burning fields. Civil affairs troops coordinated the use of C–5A aircraft to bring in the heavy firefighting equipment from Texas and provide firefighters with food, water, lodging, and helicopter and truck transportation. This gave the Kuwaiti government enough time to bring Bechtel on-site to take over the support operations. The Kuwait Task Force also provided explosive ordnance disposal support and training and coordinated engineer support until Kuwaiti equipment arrived.[5] Army explosive ordnance disposal specialists steered the firefighters safely through unexploded ordnance to the wellheads and checked the wellheads for explosives.

Kuwait Task Force members Maj. Tom Wilson, a procurement specialist with Hunt Oil in civilian life, and Lt. Col. Phil Huber focused on oil fire issues. The task force members coordinated between the firefighters and Ambassador Gnehm. They also coordinated between contractors looking for work and Bechtel or the Kuwait Oil Company.

Because of the shortage of equipment and firefighters, the work got off to a painfully slow start. Initially, the Kuwait Oil Company used nine teams representing the four firefighting companies. Firefighting equipment began arriving in Kuwait on military aircraft throughout March, and on 7 April a Boots and Coots team used liquid nitrogen and water to extinguish the first oil well fire. Fighting the wellhead infernos was dangerous and difficult. The firefighters worked in intense heat, amid blowing sand and smoke, and their brightly colored jumpsuits quickly became coated with an oily mist.

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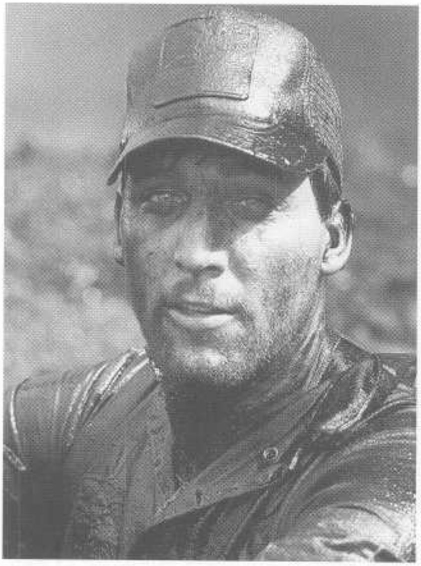
[4]KRTF History, p. 12.

[5]Matthew Wald,"Kuwait Will Hire More Firefighters," *New York Times*, 14 Apr 1991; Wald, "Slow Progress Frustrates All Involved," ibid., 22 Apr 1991, p. A8.



Oil well firefighter soaked with oil

In April, Kuwait's oil minister, Dr. Rashid Al-Amiri, announced that the national oil company would bring in firefighting teams from several different companies, breaking the American and Canadian monopoly. With only 25 well fires extinguished, he wanted to quicken the pace. The Kuwaiti government later brought in teams from three additional U.S. companies, as well as British, German, French, Russian, Chinese, and Iranian firms. Ultimately, however, the original American and Canadian firms put out most of the oil fires. Meanwhile, firms and individuals from around the world continued to inundate U.S. and Kuwaiti officials with proposals for extinguishing the fires.[6]

The slow pace of the firefight worried U.S. officials. In April, the Office of the Principal Deputy Under Secretary of Defense for Strategy and Plans hosted a meeting for representatives of the Army, Navy, Air Force, and Department of Energy to address this issue. The Deputy Assistant Secretary of Energy for Export Assistance, George Helland, warned that the administration would come under attack if it did not act quickly to put out the oil fires. Participants decided to forward all proposals for extinguishing the oil fires to the Under Secretary of Energy who would screen them before forwarding them to David Tarbell, the Director of International Economic and Energy Affairs, in the Office of the Principal Deputy Under Secretary of Defense for Strategy and Plans. The participants, however, made no attempt to define the problem. They failed to develop any specific format or guidance for drafting proposals and failed to develop any initiatives to get support from high levels in the Pentagon or the Bush administration. These were important oversights.[7]

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[6] Col. Arthur Walz, Information Paper, Subj: "Petroleum Restoration Activities," 8 Apr 1991, Reading File I: DRAO Files; Kelly comments on draft manuscript, 19 Aug 1997.

[7] 352d CA Command Sitrep, n.d., Tactical Operations Center Log (TFF 1–10 Mar 1991), TUSA G–3; Harbell interv, p. 44; Huber interv, pp, 46–49; *New York Times*, 8 Apr 1991, p. A6; Wald, "Kuwait Will Hire More Firefighters"; Wald, "Slow Progress Frustrates All Involved."

Oil well firefighters cap an oil well.

After the close-out of Task Force Freedom, the Army continued to support the firefighting effort through the Defense Reconstruction Assistance Office. Neither the Kuwaiti government nor any of the commercial firms could quickly bring in needed supplies and heavy equipment. As a result, with little legal or funding authority, the Military Airlift Command found itself flying the cargo on U.S. Air Force C–5A transports. The Defense Reconstruction Assistance Office later helped broker over $13 million in transportation expenses between the Military Airlift Command and the Kuwaiti government. Other Defense Department agencies provided support through satellite imagery photographs, airfield repair, and environmental surveys.[8]

General Kelly's staff monitored the work, gathered information, and kept Ambassador Gnehm informed. Gnehm had no environmental specialists on his staff, so he relied on Kelly's environmental officer, Lt. Col.

[8]Memo, Lt. Col. Wilson to Col. Keener, 15 Apr 1991, Subj: DOD Meeting on High-Tech Oil Firefighting, 12 Apr 1991, Kuwait Reconstruction: Oil Fires, ASA(ILE) Files.

Christopher Werle, to advise him and coordinate environmental issues. Where appropriate, Kelly's staff helped coordinate the delivery of heavy equipment on C-5A transports, the tracking of oil fires and spillage with Landsat imagery, and the stabilization of work sites with airfield matting. Werle, who performed much of the day-to-day coordination with the firefighting organizations, developed a particularly good rapport with the firefighters and their support crews. Kelly and his staff considered all activities related to the environment and the oil well fires to be "embassy business" and took no action without the Ambassador's approval.[9]

The Army also provided combat engineer vehicles (CEVs). These vehicles are tanks with turret-mounted demolition guns and hydraulically operated debris blades. They give engineers in forward combat areas a versatile means of clearing rubble and filling tank ditches. Over 80 Kuwaiti oil fires were encircled by huge, hardened mounds of coke—solids produced when the unburned oil mixed with sand—which had to be removed before the firefighters could work. Firefighters used dynamite and backhoes to remove the searing mounds, but the process was hazardous and slow. Werle developed a plan to use existing combat engineer vehicles to fire rounds of high explosive plastic (HEP) at mounds to break them up so the firefighters could remove the debris. This plan, he argued, would speed the capping effort and save the Kuwaiti government $300,000 per well. Moreover, it would provide unique training for the combat engineer vehicle crews and positive Army public relations. The Kuwait Oil Company covered the costs of using the combat engineer vehicle crews and equipment.

On 31 July, the Kuwaiti government and Bechtel conducted a very successful experiment firing the large-caliber gun on a combat engineer vehicle to remove mounds from wellheads. Rounds from the vehicle shattered four out of five of the coke mound targets. Soldiers cleared two wells using this method.

Soon after the initial experiment, however, the focus of the firefighting effort shifted to Burgan, Kuwait's densest oil field. Officials concluded that using the combat engineer vehicles there would be too dangerous because the wells were so close together.[10]

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[9] Werle, Information Paper, 16 Jun 1991, Kuwait Reconstruction: Oil Fires, Office of History Files; Werle, Information Paper, 22 May 1991, Kuwait Reconstruction: Miscellaneous Messages, #8, OACE Reference Files; Ltr, Col. Jesse C. Gatlin III to Larry and Carl, 28 Sep 1991, Miscellaneous, Personnel: DRAO Files.

[10] Lt. Col. Wilson, DAMO-ODP, SIGACT, 7 Aug 1991, Kuwait Reconstruction: Oil Fires, Subj: Use of Combat Engineer Vehicles (CEV) to fight Kuwait oil fires, ASA(ILE) Files; memo, Michael W. Owen for Secretary of the Army, 16 Aug 1991, Kuwait Reconstruction: Oil Fires, ASA(ILE) Files.

As the oil fires continued to burn, the U.S. Army and other agencies became increasingly concerned about the short- and long-term health risks of the smoke and other emissions. In March 1991, an interagency team headed by the Environmental Protection Agency collected samples at several sites in Kuwait, Saudi Arabia, and elsewhere in the Middle East. They attempted to ascertain the presence of potentially harmful air pollutants, specifically carbon monoxide, sulfur dioxide, and hydrogen sulfide and particulates—tiny particles that lodge in the lungs. The team found each of these gases but not in concentrations that exceeded current standards. The Environmental Protection Agency subsequently concluded that no imminent health risk existed.

Some experts questioned the validity of the agency's study because it included only the samples the team could collect within 20 minutes, rather than samples collected over 18 to 24 hours. The team found an abnormally high level of particulates. "Soldiers may become concerned because they find soot in their nostrils," they conceded, but the smoke was "only an irritant and a nuisance." For the long term, though, scientists needed to know more about the composition of the smoke to determine the potential health hazard. Meanwhile, at the request of the Deputy Assistant Secretary of Defense for Environment, a special health risk assessment team from the Army Environmental Hygiene Agency conducted a 60-day study. The agency coordinated its effort with the Environmental Protection Agency's interagency assessment team to exchange information and prevent duplication of effort.[11]

At the request of President Bush, the administrator of the Environmental Protection Agency, William K. Reilly, traveled to Kuwait in June to assess environmental damage from the Iraqi invasion. "The horrors endured by the people of Kuwait and the unprecedented level of intentional environmental destruction," Reilly reported, "reminds us all that there is still evil in the world." He praised the "environmental sensitivity" of the soldiers he met. "One of the untold stories," he added, "is the dazzling performance of the Army Corps, which essentially jump-started the infrastructure of a country." The military, he informed Cheney, had greatly assisted the scientists working in Saudi Arabia and Kuwait, and those responsible for sewage treatment and pollution control. Upon his return, Reilly reported that the environmental damage was not as great as predicted. He cited the interagency team's finding that the levels of sulfur and

[11] Werle, Information Paper, Subj: "Environmental Impacts of Desert Storm on Kuwait," 17 Jun 1991, Kuwait Reconstruction, Office of History Files; Werle, Information Paper, 22 May 1991.

heavy metals in the air were not abnormally high. Environmental groups, however, questioned those findings.[12]

On 2 June 1991, Kuwait resumed oil production in an offshore field, averaging 130,000 barrels a day. Later that month, it began producing 30,000 barrels a day onshore. On 25 July, Kuwait announced that for the first time since the Iraqi invasion, it would resume exporting crude oil, though only on a small scale. Half of the oil fires had been extinguished. Firefighters were snuffing out more than six well fires a day. By November 1991, all of Kuwait's oil wells had been capped. On 6 November, a ceremonial capping in the Burgan field of the final oil well was attended by the Emir. The Kuwaitis, delighted to see the end of this tragic and costly episode, celebrated the event as a national holiday.

Kuwait lost over 1 billion barrels of oil (or 1 percent of its sole natural resource) as a result of the Gulf War, but its huge reserves escaped lasting damage. The country still retained 10 percent of the world's crude oil reserves.[13] With assistance from the U.S. Army and the dedicated, skilled private contractors, the Kuwaiti government had extinguished the oil fires and recapped the wells in record time.

[12] Memo, William K. Reilly to Secretary Richard B. Cheney, 3 Jul 1991, Kuwait Reconstruction: General, ASA(ILE) Files; *New York Times*, 11 Jun 1991; "Fires in Kuwait Not a Threat to Global Climate, Federal Study Finds," *Washington Post*, 25 Jun 1991.

[13] "Oil Production in Kuwait," *New York Times*, 21 Jun 1991, p. D16; Youssef E. Ibrahim, "Kuwait Set to Resume Oil Exports," *New York Times*, 26 Jul 1991, p. D1; "Kuwait Today," *Washington Post*, 27 Feb 1996, Advertising Supplement, p. B5.